DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017487
Date Inspected: 19-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: Tom Pasqualone and John Paglier

CWI Present: ☑ Yes ☐ No

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At 2E-PP13.5-E2-LS top deck ventilation access hole, QA randomly observed ABF/JV qualified welder Xiao Jian Wan ID #9677 perform cover pass welding on the Complete Joint Penetration (CJP) longitudinal stiffener splice butt joint of a HPS 485W grade material (30mm thickness) located underneath the access hole infill plate. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8” diameter E9018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1012-3. The joint being welded has a double V-groove butt joint. The splice joint was preheated and maintained to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at one side of the plate prior/during welding. During welding, ABF Quality Control (QC) John Pagliero was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with reading of 125 amperes which appears in conformance to the contract requirements. During the shift, SMAW cover pass welding was completed and the welder has moved to the transverse stiffener of the same access hole which has a weld identification of 2E-PP13.5-E2-TS. The preheat on the completed longitudinal stiffener splice joint was held and maintained for three hours after the completion of welding. The transverse stiffener joint has identical joint configuration of double V except that the plate was not HPS 485W and the thickness (18mm) been thinner. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8” diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1030 Revision 1.

During welding, ABF Quality Control (QC) John Pagliero was also noted monitoring the welding parameters of the welder. During the shift, SMAW cover pass welding on both sides of the splice butt joint was completed and the welder has started flush grinding the weld covers. Flush grinding of the weld cover reinforcement was also completed and the welder has moved to the longitudinal stiffener plate and performed flush grinding on the weld cover reinforcement. At the end of the shift, flush grinding on the cover weld of the splice joint was still continuing and should remain tomorrow.

At 2E-PP10.5-E2-TS top deck ventilation access hole, QA randomly observed ABF/JV qualified welder Hua Qiang Huang ID #2930 was observed manually welding on the Complete Joint Penetration (CJP) transverse stiffener splice butt joint in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1030 Revision 1. The joint being welded has a double V-groove butt joint. During welding, ABF Quality Control (QC) John Pagliero was also noted monitoring the welding parameters of the welder. During the shift, SMAW cover pass welding on both sides of the splice butt joint was completed and the welder has started flush grinding the weld covers. Flush grinding of the weld cover reinforcement was also completed during the shift.

QA randomly observed ABF/JV qualified welder Jeremy Dolman (ID #5042) perform CJP groove (splice) back welding fill pass on Orthotropic Box Girder (OBG) 6E/7E bottom plate 'D2' outside. The welder was observed welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located on top of the plate prior welding and maintained the preheat by moving the heater blankets on the side of the plate during welding. The vicinity was also properly protected from wind and other climatic changes. During welding, ABF Quality Control (QC) Mike Johnson was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

At OBG 7E/8E top deck plate 'A5' outside, QA randomly observed ABF/JV qualified welder Fred Kaddu ID # 2188 perform CJP groove welding repair. The welder was observed welding in the 1G (flat) position utilizing Shielded metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The boat shape repair excavations having various dimensions were preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC Tom Pasqualone was noted monitoring the welder. Prior welding, ABF QC Tom Pasqualone was also observed performing Magnetic Particle Testing (MT) using Parker Contour Probe with red magnetic powder as detecting media on the repair excavation. There were no significant defects noted during the test. Repair welding at this location was still continuing at the end of the shift and should continue tomorrow. The following first time repairs were noted excavated and completely welded during the shift;

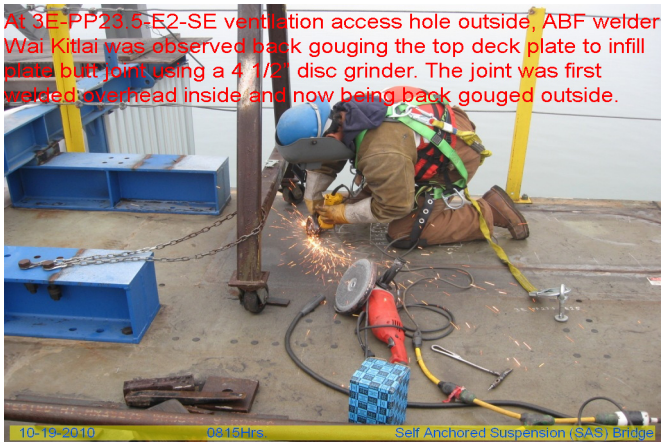
Location	Y-dimension	Length	Depth	Remarks
1. A5	1935mm – 2125mm	140mm	17mm	Completed

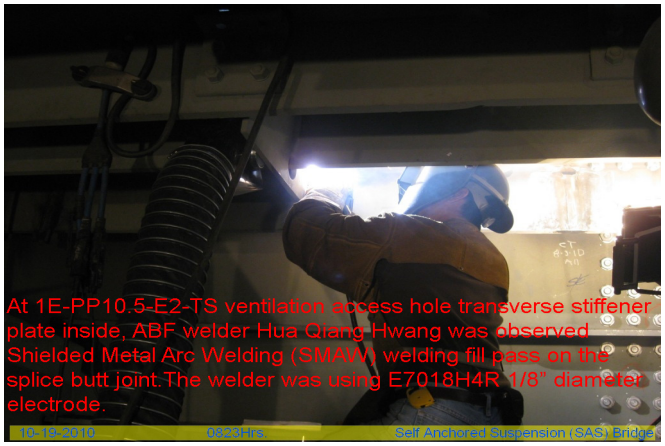
2. A5 2225mm – 2375mm 100mm 15mm Completed
3. A5 2445mm – 2635mm 140mm 15mm Completed

At OBG 6E/7E edge plate 'B' and side plate 'C' outside, ABF QC Jesse Cayabyab was observed performing Ultrasonic Testing (UT) on the welded splice butt joint. QC was using General Electric USM35 ultrasonic machine. QC was also observed scanning from both sides of face 'A' of the joint. During the shift, ultrasonic testing on the flush ground cover of the welded splice butt joint was still continuing and should remain tomorrow.

At OBG 2E-PP17.5-E2-SE top deck plate ventilation access holes, QA also observed ABF QC Patrick Swain perform Ultrasonic Testing (UT) on the welded access hole infill plate to deck plate butt joint. QC was using General Electric USM35 ultrasonic machine. QC was also observed scanning from both sides of face 'A' of the joint. During the shift, ultrasonic testing on the flush ground cover of the welded splice butt joint was completed and according to the QC, he found two rejectable indications.

Other welding activities observed during the shift include flush grinding of weld cover reinforcement of the welded splice butt joint at OBG 6E/7E side plate 'E' as required and back gouging of the ventilation access hole located at 3E-PP23.5-E2-SE that was root welded overhead from inside.





Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer